

# Bulletin

University of Toronto  
Friday January 30, 1976  
No. 22 29th Year

MINISTER AT UTSA FORUM

## Parrott discusses tuition, autonomy

by Paul Carson

Oft-repeated themes such as tuition fee increases and university autonomy dominated the discussion Jan. 21 when Harry Parrott, Minister of Colleges and Universities, appeared before a luncheon meeting at Innis College.

The gathering, sponsored by the U of T Staff Association, attracted an audience of about 60, evenly divided between administrative staff and students. Many students departed before the meeting had ended in order to attend a large rally in Convocation Hall, staged to protest the provincial government's education policies.

"The taxpayer today is paying about 85 percent of the average education costs for each post-secondary student," said Dr. Parrott; but he added, "I will not support any drastic increase in tuition fees."

"The government will keeps its stated commitment that there will be no increase in tuition fees for 1976-77. However, no such commitment has been made for 1977-78."

Many questioners pressed the Minister for comments concerning the Special Program Review Committee's recent proposal for a 65 percent increase over four years in the level of student tuition fees. (The report is commonly called the "Henderson Report" after one of its members, Maxwell Henderson, the former, federal, administrator.) Opposition to most of the committee's recommendations was the major focus during the

rally in Convocation Hall and a subsequent mass demonstration on the steps of the Legislature.

"I am a strong defender of university autonomy," said Dr. Parrott, once a member of the graduate department in U of T's Faculty of Dentistry.

"I do not want the government to become intimately involved in the internal operations of our universities."

He conceded that staff members have many valid concerns about both funding and salaries, and noted that "the progress-through-the-ranks issue is not clear yet, as the decision of the Anti-Inflation Board must be further clarified."

Dr. Parrott said it is important to come to grips with the issue of academic quality," adding that "we must put more responsibility into the graduate programs," even if this results in "destroying somewhat the accessibility of some of them."

Gwen Russell, an administrative staff representative on Governing Council, told the Minister that "staff are not willing to sacrifice quality for accessibility. There is no accommodation between the two."

Dr. Parrott said "the cutbacks" in the government's budget for post-secondary education were, in fact, "increases in spending" though admittedly less than what the universities and student groups have requested."

The Ministry will endeavour to provide the universities with greater advance warning on the level of long-term financial assistance, he said. "But I certainly can't make a



photo by Merrin Associates

Dr. Harry Parrott says he will not support any drastic increase in tuition fees.

commitment today for a future government, especially in a minority government situation."

Dr. Parrott expressed some sympathy for the remarks of one UTSA member who said, "Non-academic staff don't have tenure and we get paid thousands out to a rally to present our case to the government."

"That's why I participate in meetings such as this, to listen to your ideas," he replied.

Several administrative staff members urged the Minister to provide government funding for a

number of "worthwhile programs", such as the Innis College Transnational Year Program. "There are hundreds of worthwhile programs which we are unable to fund. They are simply not a sufficiently high government priority at this time," Dr. Parrott replied.

The government's priority this year is to close the \$2 billion fiscal gap between its revenues and expenditures, he said, "and some sacrifices must be made."

Student questioners concentrated their remarks on the

"Henderson Report", claiming that the government intends to "sacrifice students on the altar of the balanced budget" and to "make students pay for a financial crisis for whose creation they are not responsible."

Dr. Parrott asserted that the report is not government policy and that none of its controversial recommendations have been either accepted or rejected. "Requesting a report and being bound by its recommendations are totally different things," he said.

## U of T contributes to quest to cure and conquer diabetes

by Robbie Salter

Some changes have taken place in the treatment of diabetes since the memorable autumn 55 years ago when the late Sir Frederick Banting and Dr. Charles Best, working at the University of Toronto, gave the gift of life to some 25 million diabetics through their discovery of insulin. As when, in 1933-34, U of T Profs. A.M. Fisher and D.A. Scott discovered the first long-acting insulin, enabling diabetics to subsist on one injection of insulin daily rather than 2-4 in 24 hours. Insulin has prolonged life by many years, for most diabetics, particularly those who develop the disease at an early age, the quality of life is less than ideal. More than 60 percent of juvenile diabetics suffer from serious complications.

According to Statistics Canada, diabetes, which affects at least



Dr. Bernard Leibler

two percent of the population and another three percent who are unaware that they are in the pre-clinical phase, is the fifth leading cause of death today. Its victims are 25 times more prone to blindness than are non-diabetics; 17 times more prone to kidney disease; five times more

prone to gangrene of the lower limb and twice as prone to heart disease. Diabetics are also subject to premature aging and have a mean life expectancy that is 25 percent shorter than that of a non-diabetic.

These complications are now often thought to be due to irregular control of blood glucose concentration. The normal pancreas responds to a rise in blood glucose with the requisite amount of insulin. Throughout the day small quantities of insulin are released to maintain normoglycemia. The diabetic, however, often receives only one large dose of insulin by

needle in a day. During the interval between doses of insulin, there may be periods when blood glucose is highly concentrated. Many researchers believe that if normoglycemia could be maintained, diabetic complications might be halted and even reversed.

According to Profs. Anne and Otto Sirek, physiologists who share annual research on diabetes in a laboratory adjoining their offices in the Medical Sciences Building, the University continues to have an advancing edge in the quest to cure and conquer diabetes.

Continued on Page 5

## SAC strike settled Varsity back Monday

The two-week strike by eight unionized employees of the Students' Administrative Council was resolved Wednesday evening, Jan. 28.

Employees will receive wages of \$160-165 per week, a severance pay arrangement and an improved benefits package.

The normal thrice-weekly publishing schedule of *The Varsity* is expected to resume Monday, Feb. 2.

## University to ask AIB to reconsider

The University is preparing a submission in connection with a request that the Anti-Inflation Board reconsider its opinions related to the settlements with the University recently agreed upon by Local 1230, Canadian Union of Public Employees, and Local 1962, United Plant Guard Workers.

In announcing the University's decision to request a formal reconsideration, Prof. Frank Iacobucci, Vice-President Internal Affairs, said that the University was most concerned about the ruling of the Anti-Inflation Board and felt that a good case could be made for reconsideration by the Board. He said that representatives of the unions concerned would be invited to join with the University in presenting the case to the Anti-Inflation Board.

**This week:** Anthropology in Ethiopia, Book reviews, Events, Staff notes.

**Next week:** Budget proposals

## AUCC urges extension of cost-sharing plan

The Association of Universities and Colleges of Canada has called for a two-year extension to the current cost-sharing arrangements between the federal and provincial governments for the financing of universities to allow time for the development of a Canadian policy for universities.

In a brief addressed to the Prime Minister and to the Premiers of the Provinces, the Association points out that such a policy does not now exist and that there is at the present time no mechanism for developing it. The Association notes that Canadian universities have had neither the channels nor the opportunity to consult fully with the federal and provincial governments on the kind of national policy that is both feasible and desirable for them.

### Education seminars open to the public

A seminar series on "Current Concerns of National Associations for Higher Education" is being sponsored in February by the Higher Education Group of the University.

The series will be held in Room S958, OISE, 252 Bloor St. W., from 2-4 p.m. on the following dates:

Monday, Feb. 2; Claude Thibault, Executive Director, Association of Universities and Colleges of Canada.

Monday, Feb. 9; Dan O'Connor, Executive Director, National Union of Students.

Monday, Feb. 16; Allan Goldenberg, Executive Director, Canadian Association of University Teachers.

Monday, Feb. 23; Donald Savage, Executive Director, Canadian Association of University Teachers.

These meetings of the graduate seminar on "Recent Issues in Higher Education" are open to anyone interested. There is no fee.

last quarter of the century. Canada is not ready for major changes in the sharing of university costs between the provinces and the federal government. A better forum exists for examining and testing the implications of such changes. An orderly examination of the university from the national and international perspectives is urgently needed as a complement to the provincial and regional views.

The AUCC calls for the immediate commencement of consultations between the federal government, the provincial governments and the universities and indicates its willingness to initiate these consultations.

The brief urges the identification of centres and programs of excellence in Canadian universities by the federal and provincial governments and universities. It notes that in many fields, a large number of institutions with small mediocre programs is a poor substitute for one or two institutions with first-rate programs. The Association also says that more research institutes directed at meeting national needs should be created and those that exist should be provided with the support necessary to foster first-class achievement.

The brief points out that in 1975 the level of university in-

come makes it an extremely dif-

ficult exercise to allocate funds

from general revenues to cover the

indirect costs of research. It urges

both levels of government to pro-

vide their granting councils and

agencies with sufficient funds to

permit them to pay for the

research, including professorial

salaries, of the research

they fund in universities. For mis-

ion oriented research, the brief

urges that full costs be covered by

granting bodies and that efforts be

made to ensure that consistent

polices are followed by all agen-

cies involved in the administra-

tion of contracts and grants.

### Arts nominations open Feb. 2

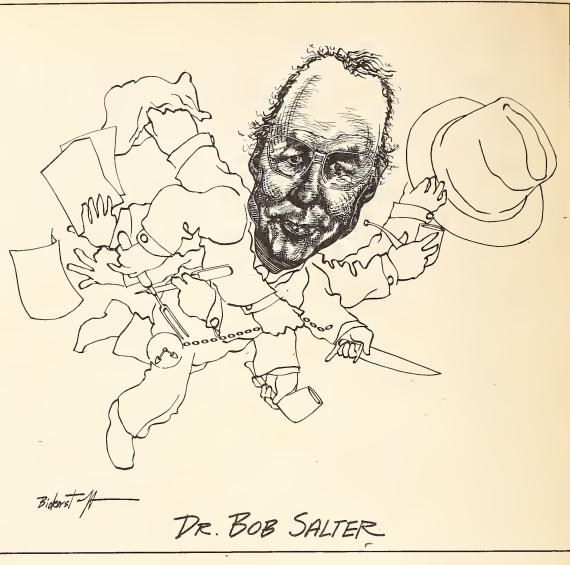
Nominations open Feb. 2 for the 1976-77 General Committee and other committees of the Arts and Science Council.

Nomination forms and a list of vacancies are available at the faculty office, 1006 Sidney Smith Hall, College and departmental offices. These forms must be returned to the FACULTY OFFICE, no later than 4 p.m. Monday, Feb. 16. Forms received after that time will not be valid.

### GC nominations close today

Prospective candidates for election to the Governing Council are reminded that nomination papers must be filed by noon today, Friday, Jan. 30, at the Governing Council Secretariat, Room 106, Simcoe Hall.

Enquiries for further information should be directed to the Governing Council Secretariat at 928-6576.



## Salter made Royal College president

Dr. R. B. Salter, Surgeon-in-Chief, Hospital for Sick Children, Toronto, and a Professor of Surgery at U of T, has been elected President of The Royal College of Physicians and Surgeons of Canada. He succeeds Dr. K.J.R. Wightman. Dr. Salter assumed the two-year presidency immediately after the forty-ninth Annual Meeting held in Quebec in January.

Dr. Salter is the first orthopaedic surgeon to be elected president of the Royal College, which includes medical and surgical specialties, as well as basic sciences.

After graduating from U of T, Dr. Salter served for two years in Labrador and Newfoundland with the Grenfell Medical Mission. He took his postgraduate training in general and orthopaedic surgery

through the Gallie Course in Toronto and spent an additional year on a McLaughlin Scholarship at The London Hospital, England.

On his return from England in 1955, he joined the staff at The Hospital for Sick Children. It was at this time he designed and developed the operation of the innominate osteotomy for the treatment of congenital dislocation of the hip. In his other research, Dr. Salter has investigated the reactions of living articular cartilage to continuous pressure, intra-articular drugs, immobilization and continuous passive motion; epiphyseal plate injuries; serious fractures in children; the pathogenesis of congenital dislocation of the hip and of Perthes' disease; and the healing of joint capsules. Dr. Salter has also written a *Textbook of Disorders and Injuries of the Musculoskeletal System* for medical students.

## Seek nominees for OCUFA awards

Nominations are invited for the 1976 Teaching Awards sponsored by the Ontario Confederation of University Faculty Associations.

Under the terms of the Program nominations may be made by interested groups or individuals

within Ontario universities. Sponsors should provide sufficient evidence, from as many sources as possible, (students, colleagues, chairmen, deans, administrators, faculty committees,) to make it clear that outstanding work deserving of recognition has been done.

Submissions are not restricted to nominations for excellence in classroom or laboratory work by an individual faculty member. For example, course preparation, team teaching and audio-visual work are all matters of importance to instruction and outstanding work in any of these areas would render nominees eligible for an award.

The OCUFA Teaching Awards Program is designed to provide more extensive recognition to established excellence in teaching and thereby to supply additional incentives towards improving the general quality of university teaching.

Nominations should be forwarded to: OCUFA Committee on Teaching Awards, 40 Sussex Avenue, Toronto M5S 1J7.

The deadline for submission of nominations is March 15, 1976.

# UNIVERSITY of TORONTO Bulletin



Published by the Department of Information Services,  
45 Willcocks Street, Toronto, Ontario  
M5S 1C7  
Telephone 928-2102

The Bulletin is published on Fridays during the academic year. All copy should be typewritten and double-spaced. The deadline for most material is seven days before publication.

### Admissions to reduce service

It is with much regret that I have to announce that effective Wednesday, Jan. 21, the Office of Admissions Front Desk Information and Counselling Service will be closed every day from 9 a.m. until noon. This reduction in service to the public is a result of current budget difficulties.

The Office of Admissions is the first point of contact with the University for the overwhelming majority of students and parents and we have always felt a special responsibility to ensure that the initial contact is friendly and helpful. During the past four years the Office of Admissions has experienced a 32 percent increase in full-time applicants, a 27 percent increase in other applicant categories; an increase from 60,000 to 100,000 in the number of written enquiries; a 20 percent increase in the number of school visits requested; and a 50 percent increase in the number of schools who wish to take part in the Campus Visit Program. During the same time period, the Office of Admissions has reduced by about 50 percent the amount of time required for an applicant to receive a decision and has expanded considerably its public information and counselling program. All this has been done without an increase in staff and budget. We have now reached a point where we can no longer carry out all of the present commitments.

A display of general information pamphlets about the University and admission requirements will be set up in the front lobby at 315 Bloor St. West.

We are determined to continue to provide the best possible service to students and to the general public.

William Kent,  
Director of Admissions

### Erindale requires new Associate Dean

A search committee has been formed to recommend a replacement for Professor Harry Taylor, Associate Dean (Sciences) at Erindale College. Nominations and/or applications should be sent to Dr. E. A. Robinson, Principal, Erindale College, together with curriculum vitae and names of three referees. The appointment will be effective July 1, 1976 and is for a three-year term.

# STAFF NOTES

## Erindale College

Dean HOWARD ANDREWS attended a conference on "Public Policy and the Built Environment" at the Harvard Graduate School of Design in October and he was also an Erindale representative at the National Social Science Conference in Ottawa in November which discussed "Social Science and Public Policy in Canada".

Prof. DAVID DUNLOP has been named an associate editor of the *Journal of Geophysical Research*, an international monthly publication of the American Geophysical Union. He also attended the International Union of Geodesy and Geophysics General Assembly in Grenoble, where he spoke on problems in determining the intensity of ancient magnetic fields using the magnetic "memory" of rocks, particularly metamorphic rocks. While in France, Dr. Dunlop was asked to be a consultant to a committee of the Centre National de la Recherche Scientifique which is considering the future direction of geomagnetic research in France.

Prof. JOHN HAGAN presented, on November 12, a paper on "Equality before the Law: Extralegal Effects in Criminal Sentencing" to the NIMAH Deviant Behaviour Training Program of the Department of Sociology, Indiana University. Earlier in the month he served with Prof. EDWARD SILVA as co-chairman of a panel at the annual meeting of the American Society of Criminology held in Toronto. Prof. Hagan presented a paper, "Explaining Watergate: Toward a Control Theory of Upperlevel Crime" and Prof. Silva spoke on "Watergate in In-

ternational Perspective: the Thesis of Imperial Democracy."

Prof. MICHAEL KIMBERLEY presented a paper to the annual meeting of the Geological Society of America in October. His topic was "Proposal of iron formation origin by cycles of argonite sedimentation, cover by volcanic ash or ferruginous mud, weathering, organic acid leaching of mud, acid-base argonite replacement and much erosion: A Quaternary analogue."

Prof. IAN LANCASHIRE has recently been appointed book review editor for the *Journal Renaissance and Reformation*, which is published semi-annually by the Toronto Renaissance and Reformation Colloquium and Victoria University Centre for Renaissance and Reformation Studies.

Prof. F. JEROME MELBY attended the annual meeting of the Canadian Association for Physical Anthropology in Winnipeg, where he organized and led a symposium on "Palaeopathology in Human Populations". He also presented a paper on "Palaeopathology of the Kleinburg People of Southern Ontario (A.D. 1600)".

Prof. JOHN R. PERCY gave a seminar on "The Problem of the Beta Cephei Stars" at the University of Texas at Austin, Nov. 12. He then spent eight days as a guest observer at the Kitt Peak National Observatory, Tucson.

Profs. RONALD PRUENSEN and BRUCE WHITE have been awarded Canada Council research grants for the coming summer. Prof. Pruensen is researching a biography of former U.S. Secret-

ary of State John Foster Dulles, and Prof. White is working on a book concerning the Pennsylvania Germans in the time of the American Revolution.

Prof. DAVID RABY was chairman of a session on "Social Conflict in 19th Century Mexico" at the tenth annual Northern Great Plains History Conference, held in October in Grand Forks, N.D.

Prof. J. H. SIMPSON made a presentation on "Variations in Church Attendance among members of the non-Official Language Groups: Some City Effects" to the sociology of religion session at the annual meeting of the Canadian Sociology and Anthropology Association at the Learned Societies' conference in Edmonton. Later in the summer, he read a paper at the American Sociology Association meeting in San Francisco, and in October, Prof. Simpson attended the annual meeting of the Society for the Scientific Study of Religion held in Milwaukee. There he presented two papers: "Ethnic Groups in Canada and the Herberg Thesis" and "The Precarious Enterprise of Ministry."

Prof. F. D. TALL spoke on "What set theory is doing to mathematics" to colloquia at the University of Alberta, the University of Manitoba and Lakehead University, in October.

Prof. H. H. WEINBERG presented a paper on "A Variant of the *Style indirect libre*: The *Style direct libre*", at a colloquium on nineteenth-century French literature held at the State University of New York at Fredonia, Oct. 31 to Nov. 1.

## Nursing

A number of faculty members participated in "Education Day" during the 50th annual convention of the Registered Nurses Association of Ontario on June 13.

Prof. K. ARPIN presented a paper entitled "Education for Life" dealing with the need for a liberal education in all phases of nursing education.

Prof. R. CUNNINGHAM acted as moderator of the panel, "What Pill Did You Take Today?", that dealt with the great increase in the number and use of prescribed and non-prescribed drugs and the resultant changes in nursing responsibilities.

Prof. P. E. JONES presented a paper entitled "Nurses in Primary Health Care" and participated on a panel entitled "Out of the Past an Exciting Future", which dealt with current roles of nurses in a variety of special settings.

Dr. J. CHAPMAN presented a paper entitled "Effect of oratory stimulation on growth motor activity of short gestation infants" at the third annual meeting of the Council of Nurse Researchers held Aug. 20-22 in Hollywood, Florida.



Desmond Morton, Associate Dean, Erindale College was one of two keynote speakers at the Ontario Federation of Labour's Political Education Conference, Nov. 2, in Kitchener. His topic was "The 1975 Election: Appraisal and Prospects".

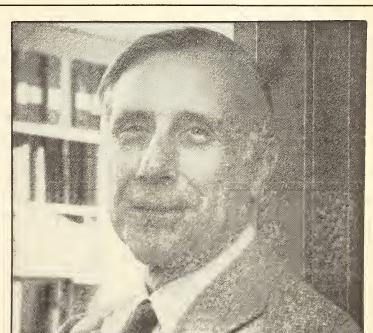
## Institute for Environmental Studies

Dr. F. E. J. FRY gave a paper at Pacific Grove, California, in September on "Thermal Physiological Effects in Aquatic Systems".

Profs. J. A. HELLEBUST and T. C. HUTCHINSON gave two talks at the International Circumpolar Conference on Arctic Ecology, Sept. 16: "Effective Crude Oil Spills on Arctic Terrestrial Vegetation" and "The Effects of Crude Oil Spills on Freshwater Ecosystems". Dr. Hutchinson also gave an invited talk on "The Impact of Single Resource Towns

on the Environment" at Yellowknife at a Preliminary Conference organized by the federal Ministry of Urban and Regional Affairs, Sept. 12-14. With Prof. P. STOKES, Dr. Hutchinson gave a paper at a symposium sponsored by the International Joint Commission held at Duluth, Oct. 7, on "The Bioavailability of Heavy Metals from Organic Complexes in Lake Systems".

Dr. P. H. JONES gave a paper Sept. 27 at Bratislava, Czechoslovakia, on "Site Selection for Intensive Livestock Operations".



Dr. F. K. Hare, Environmental Studies, acted as chairman for a symposium on "Arctic Climatology", Sept. 16-19 in Ottawa, sponsored by the National Research Council of Canada.

## Centre for Industrial Relations

Prof. NOAH M. MELTZ, Director, presented a paper on "The Development of Manpower Policy in Canada" to the joint Canadian-American Conference on Manpower Policy held at Niagara-on-the-Lake, Oct. 21-23.

## St. Michael's College

Prof. ECKEHD CATHOLY, associate chairman, U of T Department of German, gave a lecture, "Das Tiroler Fastnachtspiel und Nürnberg, Plagiat oder Neuschöpfung?", at the Congress "Das Tiroler Volkschauspiel" in Nova Cella (Neustift) Italy, Sept. 26.

Prof. ABBEY ANN LYNCH attended the National Endowment for the Humanities Conference on "Human Values and Aging" held at Case Western Reserve University, and the annual meeting of the Society for Health and Human Values in Washington, D.C.

## Victoria College

Prof. CHARLES N. GENNO gave a lecture on "Der Dichter als Revolutionär" at a symposium on Modern German Literature, sponsored by the Alexander von Humboldt Foundation, in Ludwigshafen, Oct. 22-26.

Prof. D. V. WADE served as

chairman of a Canadian Consultation of the World Conference for Peace, dealing with the topic, "The New International Economic Order and the Role of Religion", at Geneva Park Conference Centre, Lake Couchiching, Nov. 7-9.

# Theories altered by fossil discoveries

by Sheila Robinson Fallis

"Fewer than a dozen anthropologists in the whole world have found a fossil of that age."

That's how enthusiastic Prof. Beckey A. Sigmon, human palaeontologist in the Anthropology department of Erindale College, is about a fossil she found on a recent expedition to the Afar Valley of Ethiopia.

"We were out surveying an area where one of the student members of the expedition had found a jaw bone the day before. I was walking up the side of the hill where some fossils had eroded out, and I found the upper part of a femur (thigh bone)." It was a particularly exciting find for Prof. Sigmon - her special area of interest the origins of erect posture, and the formation of the top of the femur - one of the key determinants of the way the individual walked. The fossil was definitely that of a "hominid-like" creature, she says, and though it has not yet been precisely dated, "it's probably about three million years old."

The Afar Valley site, located about 200 kilometres from Addis Ababa, provides fossils which have moved human evolution back half a million years. Recently, there has been a press announcement by anthropologist Dr. Mary Leakey of finds in Tanzania which she dates at 3.75 million years. Together, these recent discoveries are modifying the history of man's evolution.

Until the late 60s, the emergence of Hominidae (the family to which the man belongs) was thought to have taken place in the Pliocene age, which lasted from about 4.5 million years ago until 10,000 years ago. *Australopithecus africanus*, discovered in 1924, was the earliest hominid unearthed. In 1938, a second hominid, *Paranthropus robustus* was found. Both were discovered in South Africa, and both had brain capacities of 50-500 cubic centimetres, as compared to man's capacity of about 1450 cubic centimetres.

In the late 1880s, a more developed hominid *Homo erectus*, was found. Its brain capacity was about 1000 cc's and it is thought to be the last hominid which preceded the earliest *Homo sapiens*. *Homo erectus* has been found in widely scattered parts of the world, unlike the earlier hominids which have been found only in South and East Africa. The names given to the various finds indicate their origins: Java Man, Pekin Man, Heidelberg Man.

It was not until very recently that the emergence of hominids before the Pleistocene age was demonstrated. Recent finds, especially those in the Afar Depression, have firmly dated hominid fossils as far back as the Pliocene age (6 to 2 million years ago). Whether or not these finds are *Homo* or *Australopithecus* has not yet been determined, "but they are some sort of hominid-like creature," says Prof. Sigmon.

The Afar Depression has produced phenomenally well preserved fossils, including a 3½-million-year-old hominid skeleton, dubbed "Lucy", which is over 40 percent complete. "There has never been a find like it before in human palaeontology," says Prof. Sigmon. Lucy is especially remarkable in a science where scholars are often forced to draw a picture of a whole skeleton from a few teeth, a bit of jawbone, and one or two other pieces of bone - if they're lucky enough to find them.

The most recent expedition to the area, named the International Afar Research expedition, was organized



Professor Beckey A. Sigmon and friend

by a French geologist, Maurice Taieb, and an American palaeontologist, Dr. D. Johnson. The Afar Valley, located near the Red Sea about 200 kilometres from Addis Ababa, forms part of the great Rift Valley which extends from Ethiopia to Malawi. It was created about 4 million years ago when the lake which it cupped dried up, leaving a valley with sides from 100 to 200 feet high. Erosion has gradually worn away the sides of the depression, exposing fossils as it proceeded.

The eroding rift valley was first spotted by Dr. Taieb when he was on a geological expedition in the late 60s. After finding some fossils, he invited Dr. Johnson to join him in an expedition in 1972. They returned in 1973 and 1974, and in 1975 Prof. Sigmon was invited to join them.

"The Afar Depression provides us with some of the earliest evidence yet discovered on the evolution of man," says Prof. Sigmon. Until this particular site was found, the oldest evidence of hominids was that produced by the Omo expedition in Ethiopia. Fossils found there have been dated at about 3 million years, and are thought to be of two forms of hominids, *Australopithecus* and *Paranthropus*. The Afar finds indicate that *Homo* had evolved 3-3½ million years ago. Although no artifacts have been found on the site, and none are likely to be found, Prof. Sigmon suspects that "they must have had a rudimentary culture". The earliest evidence of any hominid using tools, the defining characteristic of "culture", is associated with *Homo erectus* about 350,000 to a million years ago. Because tools were fashioned from bones and wood in the early stages, it is unlikely they could have survived the centuries intact even if they were used earlier.

Much of the anthropologists' knowledge is the result of luck and coincidence. The Afar finds are an example of the right environmental conditions coinciding with the right evolutionary and social conditions to produce, over three million years later, a museum of ancient man.

What makes a bone become a fossil? It is a complicated procedure which leaves one astonished and grateful that there are any souvenirs of the era of early man. Three million years ago, in the Afar Valley, early hominids lived on the side of a shallow lake. The bodies of the dead either buried or left near the shores of the lake. They sat in moisture and sediments, and over many years, by a process that scientists do not fully understand, the minerals is in solution in the water replaced the minerals in the skeletons of the bodies. Then the dried out became part of a desert, the soil dried up too, and turned into fossils, preserved under thousands of years' accumulation of shifting earth. As time passed, the sides of what had been the lake began to erode, and some of the fossils began to show, as was the case when Maurice Taieb undertook his expedition in 1969.

One of the most fascinating aspects of the Afar site is the variety of fossils it has yielded. In many sites only teeth and jaw bones have survived, because they are the densest and most durable part of the skeleton. However, the conditions for fossilization are so ideal that many other bones, specifically leg and arm bones, have been preserved. From these bones, the paleontologists can tell that the physical proportions of this undetermined species of *Homo* approximated our own.

Prof. Sigmon's experience on the Afar expedition has strengthened a theory she has held for some time concerning evolution, and, more specifically, the origins of erect posture. She thinks that the fossils found in South Africa (*Australopithecus africanus*) may not be our direct ancestors, but a species which gradually died out. She believes the ancestors of *Homo sapiens* evolved in East Africa and she hopes to conduct a Canadian expedition to the southernmost tip of the Afar Depression, near southern Tanzania. There, she believes, she may be able to find the missing link which will establish the relationship between the South African and the East African.

She also hopes to discover at what stage the first hominid stood erect. Vertebrate paleontologists have established that animals seemed to be evolving more rapidly in East Africa at that time. Some anthropologists, including Prof. Sigmon, believe there were more challenges to evolution in East Africa, brought on by changing climatic conditions, and that this could have affected both the speed and the way in which the last ape-like creatures evolved into the earliest hominid-like creatures.

Three basic characteristics define the earliest hominids: a tendency towards increased cranial capacity, dental adaptations reflecting an omnivorous diet, and erect posture. By attempting to uncover the relation between the South and the East African forms, Prof. Sigmon hopes to find the origins of the first hominids.

## Placement Centre adopts self-help system

In 1972, when students wanted help in finding post-graduation employment, they registered their names, qualifications, and interests with the Career Counselling and Placement Centre. During the next few months the Centre would inform them of any suitable jobs and where to apply for interviews.

In 1976, such coddling is only a fond memory. The Centre has evolved into a "self-help" operation, largely because time and space constraints do not permit anything else.

Part of the reason, not surprisingly, is that the Centre, along with the rest of the University, finds itself with limited funds. But another phenomenon - the increase in the number of part-time students - has caused a small explosion in the demand for services, says Centre Director Rivi Franklin.

"We have had to expand our hours until eight in the evening in order to accommodate part-time students who work during the day and can't get here at any other time," she says.

And the Centre is being used by a growing number and variety of students as competition for jobs grows even more intense. Ms. Franklin reports, "We have always had students who would come back two or three years after graduating to see if we could help them find a job. Now the alumni would like us to offer more services designed explicitly for them."

However, to do so would be impossible unless the

staff were increased considerably. Right now, it stands at 12.

"Some days in April and May, there are as many as 1,500 people in here," the Director says. Yet there are only two people to look after summer listings. With as many as 30 new jobs going on the central bulletin boards each day, there is little time for giving advice, for counselling, or for keeping track of who gets what job.

The whole question of statistics causes Ms. Franklin to raise her eyes heavenward. "It's virtually impossible to say how many kids use the service," she confesses. Her estimate of 6,500 summer employment seekers, nearly 10,000 permanent job seekers a year, is really just an educated guess based on a number of factors including counts taken at random during the peak period of April, May and June.

In 1973, the Centre gave up the registration system and went exclusively to job-posting because of the sheer volume of both postings and registrants. At that juncture, keeping statistics became a difficult and frustrating problem. Especially when, as Ms. Franklin points out, "We might spend a whole year with a group of students, counselling them, helping them with résumé writing and informing them of special seminars. They then get jobs and never even bother to reply to the follow-up questionnaires we send out." In fact, only about 35 percent send back a completed questionnaire.

If the placement aspect of the Centre is being given less emphasis, the counselling aspect now gets more. With three full-time and one part-time counsellor, last year the Centre conducted more than 2,000 booked appointments with individuals seeking advice on future careers. Many more sessions were conducted by a counsellor who is always on hand to talk on a more casual, drop-in basis.

One of the main services offered by the Centre over the past dozen years has been the on-campus interview program. Students sign on to be interviewed by one of the 20 or more large companies, such as Bell Canada, Shell Oil or IBM, which go to campuses across the country interviewing prospective employees. Traditionally, most graduating engineers have found employment this way.

Other services offered by the Centre include career seminars (which last year had an average attendance of 175 people each), seminars and practice sessions on being interviewed by prospective employers, and instruction in résumé writing. As well, the Centre is now being approached more and more by high school students contemplating attending University; according to Ms. Franklin, the most frequently asked question is: "What kind of job can I get with a university degree?"

Although her service is already extremely busy, Ms. Franklin welcomes all comers. "The sooner we see students, the better we can help them," she asserts.

# Diabetes team developing artificial pancreas

Continued from Page 1

Dr. Bernard Leibel, a U of T graduate who spent five years in postgraduate study at Guy's Hospital, London, has been involved with creating the artificial pancreas since its inception. The development of the machine marks the first time that man has been able to create an instrument that imitates a gland of internal secretion. Says Dr. Leibel, "I should like the development of the artificial pancreas to be remembered as the discovery of a team who worked together. It was a marriage of engineering and medicine. In research today, there is no such thing as a solitary accomplishment; it usually requires the conjoined intelligence of many minds to bring research to fruition." Dr. Leibel, who is with the Research Institute at The Hospital for Sick Children and Associate Professor at the Banting and Best Department of Medical Research, speaks of the work of Dr. Michael Albisser as being pivotal in the evolution of the machine.



Dr. M. Albisser, right, with Dr. E. Mariss and diabetic patient.

Dr. Albisser, who is also with the Research Institute, and a U of T graduate in Biomedical Engineering, has worked on the artificial pancreas since 1965 when the project became the basis for his doctoral thesis. He predicts that "a small, refined implantable artificial pancreas will be available in four or five years." There are now three artificial pancreas at work in Toronto, one at Mount Sinai Hospital, at the University of Guelph, and another, at The Hospital for Sick Children, which is used only for research and not for patients. Those at Mount Sinai and TGH are used for diabetic patients who volunteer to have their condition monitored and controlled by the machine for a few days. From 50 patients thus monitored, the investigators have added greatly to their knowledge of the disease. The machine is also used to stabilize a diabetic patient in crisis when a doctor so requests.

After 10 years of evolution, the machine is now reduced to the size of a typewriter. It sits by the hospital bed, attached to the patient's blood stream by two catheters inserted in the forearm. It mimics the pancreas in automatically and almost instantaneously (there is a 90-second delay), delivering appropriate amounts of insulin, and glucagon if necessary, according to the patient's current and projected blood glucose levels. A mini-computer calculates the insulin or glucagon needed. (Glucagon is another hormone produced in the same pancreatic cells as insulin, and, with insulin, has an antagonistic effect on sugar). A teletypewriter prints out and receives inform-

ation, and a pump system delivers the pancreatic hormones. The Toronto machine, whose patent rights have been turned over to The Hospital for Sick Children, is now being produced in other parts of the world as well. In Ulm, Germany, for instance, an artificial pancreas designed after the Toronto prototype is being used to guide diabetic mothers through childbirth.

The team of scientists at U of T continues to modify the machine's components in progress towards its miniaturization. Prof. N. Moody of the Institute of Biomedical Engineering has recently provided a miniaturized pump. A graduate student has just discovered that insulin delivered into a peripheral blood vessel is as effective as its delivery into the portal vein. Thus when the artificial pancreas is ready for implantation, its delivery of insulin will be as effective when implanted in a readily accessible area as it would be if implanted near the pancreas. Dr. Walter Zingg, Chief of Research at HSC, Senior Scientist at the Research Institute, and Associate Director of Biomedical Engineering, conducted the animal research that preceded the clinical use of the machine.



Dr. W. Zingg

In another research project, Dr. J.M. Martin, Research Institute, is studying the effects of transplanting the islets of Langerhans—the minute, but mighty colonies of cells scattered throughout the pancreas which produce the insulin—in rats of the same strain. "To date we have shown that the islets function normally when transplanted into the 'host vein,'" says Dr. Martin. "We have also 'cured' rats of diabetes. Now we are observing whether they escape the usual cardiovascular complications of diabetes or not." As yet the insulin-producing islet tissue has not been successfully transplanted into humans because it is just as prone to rejection by the host as are other transplanted organs.



Dr. J. Martin

Is the incidence of diabetes increasing? According to Dr. Leibel, who left a busy practice as a diabetologist to devote all of his time to research, the disease is being diagnosed more often. "Today, more people present themselves for physical examinations which are being done more carefully—especially where the patient is applying for a new position or life insurance," says Dr. Leibel. "In any diabetic detection drive, there are as many people diagnosed as having diabetes, as are unaware that they are in the initial stages of the disease." In other words, those who know they have it. Because of antibiotics, diabetes are now surviving infections that were once life-threatening. People are also living longer, under greater stress, rendering them more prone to developing maturity-onset diabetes."

Although there seems to be a certain genetic predisposition to diabetes, the significance of heredity, weighted against environmental factors, has not yet been completely evaluated. There is some evidence that diabetes is a disease of affluence, prevalent when overeating and obesity are endemic. Its incidence is less frequent in the "have not" countries and in war-time when diet is stringent.

The onset of diabetes may be sudden or gradual. It

is characterized by a deficiency of insulin to metabolize glucose which accumulates in the blood stream to the detriment of the blood vessels. In its search for alternate sources of food, the body begins to feed on its structural fat and proteins. Without insulin, coma may result. In a normal person, a meal stimulates the pancreas to increase 50-100 times the secretion of insulin and 60-80 times that of the glucose is removed by the liver before it even gets to the peripheral blood stream. In the diabetic, however, the glucose circulates for some time.

In the juvenile type of diabetes, which some investigators suspect may be related to a post-viral condition, the patient suffers a total deficiency of insulin and must take the hormone by needle since it has too large a molecule to be absorbed when taken orally. The patient must also observe a strict regimen of diet and exercise.

In maturity-onset diabetes, the patient does not have an absolute deficiency of insulin, but its rise is sluggish, its peak delayed, and its decline slow. The typical maturity-onset diabetic is between 40 and 50 years of age, somewhat overweight, and possibly hypertensive. The oral hypoglycemic pills of the sulphonylurea type are commonly prescribed for the maturity-onset diabetic since they stimulate the pancreas to release insulin. They are also useful for the diabetic who lives alone and might err in measuring insulin.

In order to regulate diet and medication, the patient often requires hospital admission. In a new approach to stabilizing diabetics as outpatients on daily visits, the Tri-Hospital Diabetic Education Centre was founded in Women's College Hospital in 1971. For hundreds of patients the Centre, under the direction of Dr. Anne Kensholt, obviates the necessity for hospital admission. At the Centre, patients, their families, and members of the health professions learn to manage diabetes through a daily regimen of diet and exercise, insulin or pills.



Professors Otto and Anna Sirek

The pills used for diabetes were developed in Germany in the late 1950s. At that time they were heralded as a major milestone in the therapy of diabetes. Recently, however, the use of oral medication of the sulphonylurea type has become somewhat controversial since certain of the "anti-diabetic" drugs are thought to be implicated in an increase of cardiovascular complications. In one of their studies, Profs. Anna and Otto Sirek seek to understand the basis for cardiovascular complications in diabetics. They hope to apply their knowledge to understanding the nature of increased cardiovascular complications in diabetics treated with oral medication of the sulphonylurea type.

The Sireks are studying the chemical composition of arterial walls of animals made endocrine-deficient through surgery. The animals are then treated with hormones or drugs and changes in the vessel walls are observed. So far the Sireks have established that endocrine secretions, and especially growth hormone, thyroxin, and insulin, have a profound effect on arterial walls and that degenerative vascular lesions in the diabetic are more the result of a multi-hormonal imbalance than a lack of insulin.

The Sireks personify the teamwork that is the hallmark of today's research. They emphasize that "combining their resources enhances their efficiency." Dr. Anna Sirek is an accomplished experimental surgeon trained in both Stockholm and Toronto. In addition to research, their teaching and administrative duties round out the Sireks' lives. Dr. Anna Sirek is Director, Division of Teaching Laboratories, and Dr. Otto Sirek is Chairman of the Clinical and Scientific Section of the Canadian Diabetic Association.

Among other U of T scientists engaged in on-going diabetic research are Profs. B.J. Lin, C.C. Yip, M. Vranic, and J. Logothetopoulos.

The above projects have been supported by the Canadian Diabetic Foundation, the Juvenile Diabetic Foundation, the Canadian Diabetes Association, Ontario Heart Foundation, Pfizer Pharmaceutical Company of Canada, Hoechst Pharmaceuticals, Medical Research Council, and adds Dr. Albisser, "all of the patients who have co-operated in the clinical trials of the artificial pancreas."

## or job seekers



Rivi Frankle, Placement Centre Director

## JOB OPENINGS

Below is a partial list of job openings at the University. Interested applicants should read the Professional Opportunity postings on their staff bulletin boards, or telephone the personnel office for further information. The number in brackets following the name of the department in the list indicates the personnel officer responsible.

Please call: (1) - Sylvia Holland, 928-6470; (2) - Wendy Chin, 928-5468; (3) - Manfred Wevers, 928-4834; (4) - Ann Sarsfield, 928-2112; (5) - David Christman, 928-7308.

**Clerk Typist II (\$6,480-7,620-8,760)**  
Faculty of Food Sciences (4), Physical Plant (5), Dentistry (1), Industrial Engineering (5), Personnel (1)

**Clerk Typist III (\$7,130-8,390-9,650)**  
School of Continuing Studies (2)

**Secretary I (\$7,130-8,390-9,650)**  
Dentistry (1), Computer Centre (3), Computer Science (1), Physics (P/T) (1), Ophthalmology (4), Faculty of Education (2), Women's Athletics (5)

**Secretary II (\$7,850-9,230-10,610)**  
Dentistry (1), Vice-President - Research & Planning (1)

**Secretary III (\$8,640-10,160-11,680)**  
Office of the Vice President & Provost (1), Department of Medicine (4)

**Clerk III (\$7,130-8,390-9,650)**  
Placement Centre (5), Admissions (4), Personnel (1), U of T Press (2)

**Clerk IV (\$8,640-10,160-11,680)**  
Clinical Sciences Division-Medicine (4)

**Dental Assistant (\$7,850-9,230-10,610)**  
Faculty of Dentistry (1)

**Laboratory Technician III (\$10,600-12,470-14,340)**  
Medical Genetics (4)

**Programmer IV (\$16,990-19,990-22,990)**  
Physics (1)

## RESEARCH NEWS

### Grants in Aid of Education Research

submit applications for partial funding.

The deadline for receipt of proposals is Feb. 27. For further information and applications call ORA at 928-2163.

### Air Resources Branch Research Grants Program

The Air Resources Branch of the Ontario Ministry of Environment provides grants-in-aid of research projects that are relevant to elementary and secondary education in Ontario. In 1976-77 a number of one year and two year awards will be made for projects that are applicable to current educational needs or are of a more exploratory nature. For further information and application details call ORA at 928-2163.

### U of T York Joint Program in Transportation

Proposals are invited for projects to be carried out during the summer of 1976 and through the academic year 1976-77 in connection with the U of T York Joint Program in Transportation. Grants will be made primarily to individuals in support of innovative projects, although groups may



photo by Mermi Associates

Aaron Copland, the distinguished American composer, visited the Faculty of Music's Edward Johnson Building recently. Seated alone on the stage of Walter Hall, Mr. Copland, 75, conducted a question and answer session with a full house of students and faculty, that was frequently anecdotal and invariably charming, as was his own student days, he remarked, universities today "are hotbeds of musical radicalism." And smiling, in reply to one of many questions concerning the process of composing, Mr. Copland commented, "It used to be thought quite shameful to use an instrument to compose, but the moment Stravinsky said he did, it was all right."

## New rehabilitation centres planned

If current negotiations between the Faculty of Medicine, under Dean R.B. Holmes' direction, and the provincial government are successful, 64 beds at 550 University Avenue (formerly New Mount Sinai Hospital), and an additional 72 beds in Mount Sinai Hospital, will be available for a new rehabilitation centre. The new centre would accommodate some of the patients now located in Queen Elizabeth Hospital or Dunn Avenue which is faced with rebuilding one wing built originally in 1885.

According to Dr. J.S. Crawford, Chairman and Head of Rehabilitation Medicine, and chairman of the program committee, such a centre would greatly enhance medical teaching programs in the care of the chronically ill and the elderly. It would also include an

undergraduate program in Occupational Therapy and Physical Therapy, and a graduate program in Speech Pathology. Its research

program would seek a better understanding of the mechanisms producing disability, its prevention, and the restoration of the patient's function.

The centre, which would be conveniently located in relation to the University and the nearby teaching hospitals, would also interact with the Rheumatic Disease Unit (30 beds) already designated by the Faculty of Medicine to be located in Mount Sinai Hospital.

Others serving on Dr. Crawford's committee include Dr. Jose Jimenez, Physician-in-Chief, Department of Rehabilitation Medicine, Mount Sinai Hospital; Dr. T.J. McCann, Medical Director, Queen Elizabeth Hospital; and Dr. J. Dorman, Physician-in-Chief and Director of Rehabilitation Medicine, Toronto General Hospital.

## PH D ORALS

Since it is sometimes necessary to change a date or time of an oral examination, please confirm the information given in these listings with the Ph.D. oral office, telephone 928-5258.

Wednesday, February 4

James Durward Paterson, Department of Anthropology, "Variations in Ecology and Adaptation of Ugandan Baboons *Papio Cynocephalus Anubis*: With Special Reference to Forest Environments and Analog Models for Early Hominids." Thesis supervisor: Prof. F. Burton, Room 108, 16 Hart House Circle, 2 p.m.

Wong, Room 201, 65 St. George St., 2 p.m.

Mohamed Suleiman Mukras, Department of Political Economy, "Kenya: The Provincial Distribution of Secondary Education Services, 1964-1972." Thesis supervisor: Prof. G. K. Helleiner, Room 108, 16 Hart House Circle, 3 p.m.

Friday, February 13

Brian Hayden, Department of Anthropology, "Australian Western Desert Lizard Technology: An Ethno-Archaeological Study of Variability in Material Culture." Thesis supervisor: Prof. W. Irving, Room 108, 16 Hart House Circle, 10 a.m.

Garry Dwight Lougheed, Department of Physics, "The Application of a Fixed-Jt Averaging Spectral Distribution Method to Many-Particle Spectroscopy." Thesis supervisor: Prof. S.S.

## W. B. Scott to direct marine lab

Prof. W.B. Scott of the Royal Ontario Museum and U of T has been appointed executive director of the Huntsman Marine Laboratory in New Brunswick, commencing June 1.

Prof. Scott's association with U of T began as a student in 1938. He subsequently was graduated with bachelors and doctoral degrees and 10 years as a teaching career here. He also has a long and distinguished association with the ROM, serving as acting curator and curator of ichthyology and herpetology, and, to the present, as associate director.

Dr. Scott is the co-author of the definitive volume *Fishes of the Atlantic Coast of Canada*, and of more than 100 articles in professional publications.

The Huntsman Marine Laboratory, officially opened in 1970, is a co-operative venture of 20 Canad-

ian universities, the federal government department of the environment, and fisheries departments in Newfoundland, New Brunswick and Prince Edward Islands. As

well, the University of Maine, the International Atlantic Salmon Foundation and the Woods Hole Oceanographic Institution are members.

## Bickersteth awarded OC

The Hon. Paul Martin, Canadian High Commissioner to the United Kingdom, has presented the insignia of a Member of the Order of Canada to J. Burgon Bickersteth, second Warden of Hart House (1921-1947). The ceremony took place on Jan. 2 in Canterbury, where Dr. Bickersteth has lived since his retirement. The Archbishop of Canterbury, the Most Rev. Donald Coggan, who was at one time on the staff of

Wycliffe College, was among those in attendance. The citation read by Mr. Martin said that the honour was conferred upon Dr. Bickersteth "for his services to education in western Canada and the Canadian armed forces overseas, as Warden of Hart House, Toronto, for over a quarter of a century, and for his continuing help to and concern for the numerous Canadians he sees every year in Canterbury."

# BOOKS

## Yeats scholarship has archaeological slant

Yeats and the Theatre.

Edited by Robert O'Driscoll and Lorna Reynolds

MacMillan of Canada

Toronto theatre enthusiasts who are disappointed that Edward Gordon Craig's designs for *Hamlet* (recently exhibited at the National Gallery of Canada, Ottawa) will not be shown in Toronto, can find some consolation in this, the first volume of the Yeats Studies Series. It was Yeats, we are told, who, in 1913, arranged the Dublin exhibition of Craig's theatre designs, including the model for the famous 1911 production of *Hamlet* in Mexico. Two of the essays in this book are on the collaboration of Yeats and Craig, and there are over a dozen illustrations pertaining to this relationship, showing Craig's screens, costume and set designs for plays of Yeats. It is refreshing to see Yeats's drama discussed in terms of stage craft rather than only as literary texts, and these essays by James Flannery and Karen Dorn help one to reconstruct Yeats's plays in the imagination, a necessary task since they are so seldom performed.

Because the Yeats Studies Series will feature mainly Yeats's unpublished writings, there is an archaeological slant to this volume. And because "theatre" has been interpreted as Yeats's expression of his personality in his art as well as on stage, the author of *Yeats and the Irish State* is included when a reader interested in theatre might have preferred accounts of the few modern productions of Yeats's plays, such as the Belfast Lyric Theatre's staging of

the Cuchulain cycle, or the English Opera Company's *Purgatory* at Sadler's Wells; or to have had considered not just influences on Yeats, but Yeats's influences on modern dramatists such as Derek Walcott of the Trinidad Theatre Workshop (*Dream on Monkey Mountain*) and Leroy Jones (*The Slave*). Nevertheless, one has come to expect to see Yeats in more traditional company such as that of Sophocles, Swift, the Japanese Noh, and the poets of the 1890s, and that is what this collection of essays offers.

There are 20,000 words of unpublished Yeats material in this volume, and by far the most important material, and the cornerstone of the book, are three lectures in which Yeats discusses personality. Robert O'Driscoll has provided critical and editorial introductions to these lectures. Fortunately, a stenographer transcribed the reactions of the audience and the remarks by the chairman (including Edmund Gosse and Bernard Shaw) so that the sense of the occasions has been preserved. Yeats's distinction between character and personality in these 1910 lectures was later to be expanded into his theory of objective and subjective, primary and antithetical, in *A Vision*, his view of personal psychology and history. To just as revealing is the author's own article, in which he makes his audience laugh. Douglas Archibald points out that fuller recognition of what A. E. called Yeats's "impish humour" would make Yeats studies more pleasant as well as more accurate.

Archibald himself makes Yeats

studies more pleasant by writing well. His essay on Yeats's encounter with Swift is the best critical piece in the book, adding to a growing body of perspectives on that most thorny of literary problems, influence, an understanding of which, Archibald claims, "can serve to remind us of something we all more or less

sense, that when we are reading well, we exist in a kind of imaginative present, attending to the truth and value of yesterday and to the experience and needs of today."

The other essays tend to be more for the Yeats specialists, all of whom will welcome this book and look forward to future vol-

umes in the series published by Macmillan of Canada and edited by Robert O'Driscoll. St. Michael's and Lorna Reynolds of University College, Galway, now in residence at Massey College,

David C. Nimmo, Director, Transitional Year Programme, Innis College.

## \$29.95 and worth it

Science and Social Responsibility

Edited by Maurice Goldsmith

MacMillan Press Ltd. 1975

What impresses one greatly about this small book of 168 pages, is its enormous price in Canada of \$29.95, which is a reflection, no doubt, both of inflation and our declining resources of trees from which to make paper. It is a report of a conference sponsored by the Science Policy Foundation, held in London in 1973. One of the main participants, Dr. Lister Sinclair, Executive Vice President, Canadian Manufacturing Corporation, will be known to many Canadians, and quite a few people will know Anthony Wedgwood Benn, Secretary for Trade and Industry, London. The other participants were from industry and universities, mainly from the United Kingdom, but with some representation from Sweden, the United States, Serbia and Hungary.

A number of points of considerable interest were raised by Mr. Wedgwood Benn. One is what he calls the myth of scientific and technological self-containment, which means approximately that academics can do as they like, spend their time as they wish, do the research they prefer, completely regardless of social need and the pressures of society. He challenges this attitude, expressing the view that universities must not be isolated from dealing with clamant current problems.

He feels that as monasteries were once closed down, universities similarly will have to face a massive attack on their isolation and insularity. Possibly by cutting university monies in Canada, our governments are trying to tell us something. If this does not work, perhaps more blunt measures may be employed by our rulers. Academics must be quite sure that they can prove that their freedom has not become licence.

Professor Leontine Rieser, from the United States, gives an excellent account of the situation in which the American Association for the Advancement of Science has in recent years questioned and influenced many of the science policies of the government of the United States. These have ranged from practices in the Vietnam War to the training in science of minority groups and women.

A recurring theme of many of the presentations for this excellent account of a top level scientific meeting is that of the sharing of power in society, and how this can be developed, or rather, how attempts could be made to develop it.

After due reflection, this book is worth its price, for those who are interested in social responsibility, for scientists, as well as for the rest of the community.

W. Harding le Riche, M.D.  
Professor of Epidemiology

## A prelude, a postlude and a lude

Hallowed Walls: Church Architecture in Upper Canada  
by Marion MacRae and Anthony Adamson

*Hallowed Walls* is a great book by the team that produced that outstanding architectural landmark, *The Ancestral Roof*. While that was a joint effort, credit for *Walls* goes to Marion MacRae for the Prelude; to Dr. Anthony Adamson (I am delighted to see him now so deservedly an LL.D of a great university) for the drawings and the Postlude; and again to Miss MacRae for the admirable text throughout, (presumably, the Lude).

Six years went into the project, and to describe the book as the definitive work on the churches of Ontario (as it does on the jacket) is, from my reading of it and my knowledge of the subject, no exaggeration. For newcomers to Canada, who I hope will buy *Walls*, I should explain that Upper Canada is the spiritual home of both the Anglicans and that their love of that historic period flaws all they have written, greatly to our benefit.

So well have they handled this subject that no one would dream of tackling it again, and the next book on the architecture of the churches of Ontario will begin where they left off, with fifty percent of it polychromatic.

"Without diminishing in any way the veracity of the foregoing," I regret the omission of the interior of St. Paul's, Power Street. There might have been room, too, for an anecdote on the history of its predecessor when it was known as the R.C. cathedral church of the diocese. The collectors responsible for reducing the debt on the building were the Surveyor-General, Sir Honorable W. W. Baldwin, Mr. Simon Washburn and Lt. Col. James Fitz-Gibbon, all Anglicans, and members of the congregation of St. James'.

I was delighted to see a full page given William Thomas' St. Paul's, in Hamilton, which, in this reviewer's opinion, is the finest Gothic church in Canada. At the



Moravian United Church at New Fairfield. Built by the Delaware and the Moravian Brethren (1840).

same time, I would like to have seen some critical comment on the contrast between the Gothic refinement and competence of the exterior, and what the caption describes as the "sumptuous solemnity" of the interior - a charming alliteration, in lieu of "plain clumsy", in which I detect the hand of Dr. A.

That brings up the matter of

captions in general in the book. They are informative - for the reader who is familiar with the text. "26 The stones of strife - Knox Free Kirk, Perth, 1854" sets the reader who is not a Scot on a search for more about the "strife", and he is rewarded in a paragraph on the next page with a word or two about the Free Church uphanded within the Established Church in Scotland across the border from the Sassenachs. As a matter of fact, it is not at all a bad technique, even if, or because, it will irritate the uninterested reader.

There is another matter, more

of book design, than of text, that I think calls for comment. Somehow Victoria's church illustrations don't seem comfortable "bleeding" off the edge of a page, and when they "bleed" across the "gutter", the gore is considerable. Examples of this are Notre Dame, Ottawa, and worse is what happened to St. Mary's Cathedral in Kingston. There are others. The glossary is good, but surprisingly, there is no bibliography, a lack as well, in *The Ancestral Roof*.

Delights are to be seen Bishop Strachan, that man of granite, floating lonely as a cloud over St. James Cathedral, the stimulating scholarly text, the superb drawings and a quotation that surprised me, dug up from deep in Banister Fletcher's *History of Architecture*: "Cologne Cathedral... a conspicuous instance of the adaptation of the details of a style, without having committed the sin that created it." That eliminates quite a few of our churches in Ontario.

Eric Arthur, Professor Emeritus

Faculty of Architecture

## Directory cites 9300 associations

Recently published by U of T Press, the 1975 edition of the *Directory of Associations in Canada/Repertoire des associations du Canada*, prepared under the direction of Brian Land, past Dean of the Faculty of Library Science will go largely unnoticed by the general public. However, it will not go unnoticed by hundreds of librarians, government officials, researchers, PR firms, hotel convention managers and media people who have found the first edition, published in 1974, an invaluable reference source.

The directory is the first comprehensive listing of national, in-

ternational, provincial, regional, metropolitan and (some) local associations in Canada. There are 9300 cited associations in all (give or take a dozen), from the Canadian Union of Public Employees to the Daughters of the Midnight Sun.

The directory is also bilingual, a feature very much appreciated by the federal government in particular.

Another useful feature is the inclusion of a Subject Index, in addition to the usual alphabetical listing. All entries are cross-referenced and associations are classified by principal service or type

of activity. For instance, the Canadian Diamond Drilling Association appears in the Subject Index under the heading: Drilling and Boring. This feature makes it easy to find an association in a particular field without knowing its name beforehand.

At \$36.50, the volume is a substantial investment, especially considering how quickly it goes out of date. A third edition is already being planned for 1977. However, judging by the sales to date, many organizations have already realized the value of the directory and many further editions are likely.

SRF

## EVENTS

## FRIDAY 30

The Reinterpretation of History by Indian and Pakistani Scholars. (Lecture) Prof. Ainslie T. Embree, Dean, School of International Affairs, Columbia University. Library Science Theatre, room 205, Faculty of Library Science, 11 a.m. (South Asian Studies Committee ISP)

Iordanus de Nemore and Stereographic Projection in the Middle Ages. (Colloquium) Dr. Ronald B. Thomson, Associate, Institute for History and Philosophy of Science and Technology. Common Room, (418) 4th floor, Textbook Store. 2.30 p.m.

The Mechanism of Formation of Amino Acids by High Temperature Shock-Waves. (Colloquium) Dr. Akiva Bar-Nun, Hebrew University of Jerusalem. 158 Lash Miller Chemical Laboratories. 4 p.m.

Lifetime Commitment, Technology and Organizational Structures in Japanese Factories. (Public Seminar) Prof. Robert March, Department of Sociology, Brown University, Providence, R.I. Craft Chapter House, University College. 10 a.m. to 12 noon. (East Asian Studies Committee ISP)

Scholarly Access to South Asian Social Science Materials in India and Pakistan. (Seminar) Prof. Ainslie T. Embree, Dean, School of International Affairs, Columbia University. 2116 Sidney Smith Hall. 2 p.m. (South Asian Studies Committee ISP)

Williams Chamber Singers director Kenneth Roberts, Williams College, Williamstown, Mass. Great Hall, Hart House. 8.30 p.m.

The Crucible (Opera), by Robert Ward, based on Arthur Miller play. Conductor, James Craig; director, Constantine Fisher. Performances Jan. 30, 31, Feb. 6 and 7. MacMillan Theatre, Edward Johnson Building. 8 p.m. Tickets \$3.50, students and senior citizens \$2. Cheques payable U of T; enclose stamped, addressed envelope. Box office 928-3744.

Olympia II Festival of Beauty (Berlin 1936). (Film), director, Leni Riefenstahl. H. 216 Scarborough College. 7.30 p.m.

All's Well That Ends Well (Theatre). Performances Jan. 30, 31, Hart House Theatre. 8.30 p.m. Tickets \$3, students \$1.50. Box office 928-8668.

You're A Good Man Charlie Brown (Theatre). Theatre Mirkitties. Performances Jan. 30, 31 and Feb. 1. Upper Brennan Hall. 8.30 p.m. Tickets \$1.50 to non-St. Michael's students. Box office 928-8893.

Trent vs Varsity (Women's Basketball). Benson Building. 7.30 p.m.

Guelph vs Varsity (Women's Hockey). Varsity Arena. 7.30 p.m.

## SATURDAY 31

Fish Aren't Fowl (The Potential of Aquaculture) (Lecture) Dr. John M. Anderson, President and Vice-Chancellor, University of New Brunswick. Convocation Hall. 8.15 p.m., doors open 7.30 p.m. (Royal Canadian Institute)

Chamber Music recital by students in chamber music classes. Concert Hall, Royal Conservatory of Music. 3.15 p.m.

Colgate vs Varsity (Swimming). Benson Building. 2 p.m.

Queen's vs Varsity (Basketball). Benson Building. 2 p.m.

## FEBRUARY

## SUNDAY 1

Toronto Dance Theatre (Recital). Scarborough College Sunday Concert Series Meeting Place. 3.30 p.m.

Carole Anne Curry soprano. Great Hall, Hart House. 8 p.m.

(Lecture-Discussion). James Tiley, Instructor, Ontario College of Art. Hart House Art Gallery. 8 p.m.

Experiencing at Harwell with large, stiff initial value problems (Computer Seminar). Dr. Alan R. Curtis, Atomic Energy Research Establishment, Harwell. 1122 McLennan Physical Laboratories. 10 a.m.

Ties That Bind, (Film), history of the Maritimes, fourth of seven CBC documentaries in Images of Canada series. ROM Theatre. 5.30 p.m.

Percussion Ensemble — director Russell Hartenberger. Walter Hall, Edward Johnson Building. 1.15 p.m.

The Christian Message in the Film Media (Meeting). Dr. A.G. Gibson, St. Michael's College. Newman Centre. 8 p.m.

Marvin Bell reading his poetry. St. Michael's Poetry Series 1975-76. Upper Brennan Hall. 4 p.m.

Faculty of Music Student Ensembles. Walter Hall, Edward Johnson Building. 2.10 p.m.

Pierre Souvairan piano. Walter Hall, Edward Johnson Building. 8.30 p.m.

String Quartet Music Room, Hart House. 1.10 p.m.

## FRIDAY 6

Laser Spectroscopy of Negative Ions and Free Radicals (Colloquium). Prof. Carl Lineberger, Department of Chemistry and Joint Institute for Laboratory Astrophysics, University of Colorado. 158 Lash Miller Chemical Laboratories. 4 p.m.

## SATURDAY 7

Canada's Water: A Resource and an Environment (Lecture). J.P. Bruce, director general, Inland Waters, Environment Canada, Ottawa. Convocation Hall. 8.15 p.m., doors open 7.30 p.m. (Royal Canadian Institute).

## SUNDAY 8

Faculty of Dentistry (Open House). 124 Edward St. 1-4 p.m.

Oxford String Quartet. Walter Hall, Edward Johnson Building. 3 p.m. Adults \$4, students and senior citizens \$2. Cheques payable "Special Concerts"; enclose stamped, addressed envelope. Box office 928-3744.

Norman Rubin, baritone, Carl Morley, piano. Walter Hall, Edward Johnson Building. 8.30 p.m.

## MONDAY 9

Getting Straight: My Work and Myself (Lecture-Discussion). Dennis Burton, director, New School of Art. Hart House Art Gallery. 8 p.m.

Current Concerns of National Associations for Higher Education (Seminar), first of four meetings. Claude Thibault, executive director, AUCC. Room S958, OISE, 252 Bloor St. W. 2-4 p.m. (Higher Education Group)

## MONDAY 2

Prosthetic and Restorative Dentistry at the University of Michigan (Lecture) Dr. Joseph A. Clayton. School of Dentistry, University of Michigan, Ann Arbor. 406 Professional Building. 123 Edward St. 12.30-2 p.m.

Current Concerns of National Associations for Higher Education (Seminar), first of four meetings. Claude Thibault, executive director, AUCC. Room S958, OISE, 252 Bloor St. W. 2-4 p.m. (Higher Education Group)

## TUESDAY 3

Syringomyelia Re-Visited (Lecture) Dr. Gilles Bertrand, Neurosurgeon-in-Chief, Montreal Neurological Hospital and Professor of Neurosurgery, McGill University; 1976 William S. Keith Visiting Professor of Neurosurgery. 2172 Medical Sciences Building. 5 p.m.

Corporate Power Today: The Image and the Reality (Lecture) David Lewis, Institute of Canadian Studies, Carleton University; former national NDP leader. Watts Memorial Lecture. Meeting Place, Scarborough College. 8 p.m.

Adventures in Reconstructing Past Environments: The Life and Times of Pleistocene Vertebrates (Lecture). Dr. John H. Andrews, curator, Department of Mineralogy and Geology. ROM Theatre. 8.30 p.m.

Recent Work on Beta Lyrae (Special Colloquium-Lecture) Dr. Alan H. Battat, Dominion Astrophysical Observatory, Herzberg Institute of Astrophysics. 137 McLennan Physical Laboratories. 4.10 p.m.

Jack McFadden Quartet, jazz. East Common Room, Hart House. 12 noon.

Below the Waterline: A Personal Look at the Toronto Art Scene

Seminars for Parents series The Divorced Child. Drs. Clive Charnock, Ian and Samuel Macdonald, Family Court Clinic, Civic Institute of Psychiatry, Town Hall, St. Lawrence Centre. Discussion period follows presentations. 8 p.m., doors open 7.30 p.m. (Hospital for Sick Children Foundation)

THURSDAY 5

Origins of State: A Controlled Comparison (Colloquium) Prof. Ronald Cohen, Department of Anthropology and Political Science, Northwestern University. Upper Library, Massey College. 12-2 p.m. (African Studies Committee ISP)

Bernadene Blaha piano. Music Room, Hart House. 1.10 p.m.

## WEDNESDAY 4

The Fine Art of Choosing: Theory and Practice (Lecture series, third of ten) Policy Making in Conflict and Crisis. Prof. Malcolm Taylor, York University. 1016 New College, Willowcote St. 7.30 p.m.

The Energy Crisis and Canada's Domestic and External Response (Lecture) Hon. Donald S. Macdonald, M.P. Seeley Hall, Trinity College. 5.30 p.m.

Information Services has picture files, biography files on living people connected with the University and clipping files maintained on a three-year basis, on the U of T and on higher education. Other material in the University Archives includes biography files on present and former members of U of T faculty, subject files on undergraduates, on alumni and on subjects specifically related to U of T. Both departments clip the globe and Mail and The Toronto Star, and Information Services also clips The Toronto Sun and The Financial Post.

The Energy Crisis and Canada's Domestic and External Response (Lecture) Hon. Donald S. Macdonald, M.P. Seeley Hall, Trinity College. 5.30 p.m.

## Clip! Clip! Clip!

The University Archives and the Department of Information Services are co-operating to investigate the extent of clipping of newspapers and periodicals being carried out on campus, how duplication could be avoided and service co-ordinated and improved. If your department provides a clipping service, please answer these questions and return your answers to: Mrs. E. Wilson, Director, Information Services, 45 Willcocks St. by Feb. 6, 1976.

1. Your name and department.
2. What magazines and newspapers are clipped regularly?
3. What is the purpose of the clippings?
4. What is being clipped?
5. What is the circulation of the clippings?
6. What method of filing and storing clippings is used?
7. Are clippings filed chronologically or by subject?
8. How long are clippings kept? (Originals or copies?)
9. If there were a good, fast central clipping service would you make use of it?
10. Would you contribute funds to its maintenance or pay a per clipping charge?

Information Services has picture files, biography files on living people connected with the University and clipping files maintained on a three-year basis, on the U of T and on higher education. Other material in the University Archives includes biography files on present and former members of U of T faculty, subject files on undergraduates, on alumni and on subjects specifically related to U of T. Both departments clip the globe and Mail and The Toronto Star, and Information Services also clips The Toronto Sun and The Financial Post.

The Energy Crisis and Canada's Domestic and External Response (Lecture) Hon. Donald S. Macdonald, M.P. Seeley Hall, Trinity College. 5.30 p.m.

Recent Work on Beta Lyrae (Special Colloquium-Lecture) Dr. Alan H. Battat, Dominion Astrophysical Observatory, Herzberg Institute of Astrophysics. 137 McLennan Physical Laboratories. 4.10 p.m.

Jack McFadden Quartet, jazz. East Common Room, Hart House. 12 noon.

Below the Waterline: A Personal Look at the Toronto Art Scene

Recent Work on Beta Lyrae (Special Colloquium-Lecture) Dr. Alan H. Battat, Dominion Astrophysical Observatory, Herzberg Institute of Astrophysics. 137 McLennan Physical Laboratories. 4.10 p.m.

Jack McFadden Quartet, jazz. East Common Room, Hart House. 12 noon.

Guelph vs Varsity (Hockey) Varsity Arena. 8 p.m.

Guelph vs Varsity